



HER0071SEQ2.TXT

## SEQUENCE LISTING

<110> FRANCE HYBRIDE  
<120> Process for producing a mammal rendered resistant to an infection by an alphaherpesvirus by germinal transgenesis and mammal obtained by the employment of this process.  
<130> hvec  
<150> Fr02 12775  
<151> 2002-10-15  
<160> 4  
<170> PatentIn version 3.1  
<210> 1  
<211> 440  
<212> PRT  
<213> artificial sequence  
<220>  
<223> Artificial protein fusing the extracellular domain of the protein HveM of the mouse and the crystallisable fragment of the human immunoglobulin G1  
<400> 1  
Met Glu Pro Leu Pro Gly Trp Gly Ser Ala Pro Trp Ser Gln Ala Pro  
1 5 10 15  
Thr Asp Asn Thr Phe Arg Leu Val Pro Cys Val Phe Leu Leu Asn Leu  
20 25 30  
Leu Gln Arg Ile Ser Ala Gln Pro Ser Cys Arg Gln Glu Glu Phe Leu  
35 40 45  
Val Gly Asp Glu Cys Cys Pro Met Cys Asn Pro Gly Tyr His Val Lys  
50 55 60  
Gln Val Cys Ser Glu His Thr Gly Thr Val Cys Ala Pro Cys Pro Pro  
65 70 75 80  
Gln Thr Tyr Thr Ala His Ala Asn Gly Leu Ser Lys Cys Leu Pro Cys  
85 90 95  
Gly Val Cys Asp Pro Asp Met Gly Leu Thr Trp Gln Glu Cys Ser  
100 105 110  
Ser Trp Lys Asp Thr Val Cys Arg Cys Ile Pro Gly Tyr Phe Cys Glu  
115 120 125  
Asn Gln Asp Gly Ser His Cys Ser Thr Cys Leu Gln His Thr Thr Cys  
130 135 140  
Pro Pro Gly Gln Arg Val Glu Lys Arg Gly Thr His Asp Gln Asp Thr  
145 150 155 160  
Val Cys Ala Asp Cys Leu Thr Gly Thr Phe Ser Leu Gly Gly Thr Gln  
165 170 175  
Glu Glu Cys Leu Pro Trp Thr Asn Cys Ser Ala Phe Gln Gln Glu Val  
180 185 190  
Arg Arg Gly Thr Asn Ser Thr Asp Thr Thr Cys Ser Ser Asp Pro Glu  
195 200 205  
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala  
210 215 220  
Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro  
225 230 235 240  
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val  
245 250 255  
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val  
260 265 270  
Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln  
275 280 285  
Tyr Asn Ser Thr Tyr Arg Val Ser Val Leu Thr Val Leu His Gln  
290 295 300  
Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala  
305 310 315 320  
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro  
325 330 335  
Arg Glu Pro Gln Val Tyr Thr Leu Pro Ser Arg Asp Glu Leu Thr  
340 345 350  
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser  
355 360 365  
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr  
370 375 380  
Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr  
385 390 395 400

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe  
 405 410 415  
 Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys  
 420 425 430  
 Ser Leu Ser Leu Ser Pro Gly Lys  
 435 440

<210> 2  
 <211> 581  
 <212> PRT  
 <213> artificial sequence

<220>  
 <223> Artificial protein fusing the extracellular domain  
 (domains V-C-C) of the protein HveC of the pig and the  
 crystallisable fragment of the human immunoglobulin G1  
 <400> 2

Met Ala Arg Met Gly Leu Ala Gly Ala Ala Gly Arg Trp Trp Gly Leu  
 1 5 10 15  
 Ala Leu Gly Leu Thr Ala Phe Phe Leu Pro Gly Ala His Thr Gln Val  
 20 25 30  
 Val Gln Val Asn Asp Ser Met Tyr Gly Phe Ile Gly Thr Asp Val Val  
 35 40 45  
 Leu His Cys Ser Phe Ala Asn Pro Leu Pro Gly Val Lys Ile Thr Gln  
 50 55 60  
 Val Thr Trp Gln Lys Ala Thr Asn Gly Ser Lys Gln Asn Val Ala Ile  
 65 70 75 80  
 Tyr Asn Pro Ala Met Gly Val Ser Val Leu Ala Pro Tyr Arg Glu Arg  
 85 90 95  
 Val Glu Phe Leu Arg Pro Ser Phe Thr Asp Gly Thr Ile Arg Leu Ser  
 100 105 110  
 Arg Leu Glu Leu Glu Asp Glu Gly Val Tyr Ile Cys Glu Phe Ala Thr  
 115 120 125  
 Phe Pro Ala Gly Asn Arg Glu Ser Gln Leu Asn Leu Thr Val Met Ala  
 130 135 140  
 Lys Pro Thr Asn Trp Ile Glu Gly Thr Gln Ala Val Leu Arg Ala Lys  
 145 150 155 160  
 Lys Gly Lys Asp Asp Lys Val Leu Val Ala Thr Cys Thr Ser Ala Asn  
 165 170 175  
 Gly Lys Pro Pro Ser Val Val Ser Trp Glu Thr His Leu Lys Gly Glu  
 180 185 190  
 Ala Glu Tyr Gln Glu Ile Arg Asn Pro Asn Gly Thr Val Thr Val Ile  
 195 200 205  
 Ser Arg Tyr Arg Leu Val Pro Ser Arg Glu Asp His Arg Gln Ser Leu  
 210 215 220  
 Ala Cys Ile Val Asn Tyr His Met Asp Arg Phe Arg Glu Ser Leu Thr  
 225 230 235 240  
 Leu Asn Val Gln Tyr Glu Pro Glu Val Thr Ile Glu Gly Phe Asp Gly  
 245 250 255  
 Asn Trp Tyr Leu Gln Arg Met Asp Val Lys Leu Thr Cys Lys Ala Asp  
 260 265 270  
 Ala Asn Pro Pro Ala Thr Glu Tyr His Trp Thr Thr Leu Asn Gly Ser  
 275 280 285  
 Leu Pro Lys Gly Val Glu Ala Gln Asn Arg Thr Leu Phe Phe Arg Gly  
 290 295 300  
 Pro Ile Asn Tyr Ser Met Ala Gly Thr Tyr Ile Cys Glu Ala Thr Asn  
 305 310 315 320  
 Pro Ile Gly Thr Arg Ser Gly Gln Val Glu Val Asn Ile Thr Glu Phe  
 325 330 335  
 Pro Tyr Thr Pro Ser Pro Pro Glu His Ala Asp Pro Glu Glu Pro Lys  
 340 345 350  
 Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu  
 355 360 365  
 Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr  
 370 375 380  
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val  
 385 390 395 400  
 Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val

## HER0071SEQ2.TXT

405 410 415  
 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser  
 420 425 430  
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu  
 435 440 445  
 Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala  
 450 455 460  
 Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro  
 465 470 475 480  
 Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln  
 485 490 495  
 Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala  
 500 505 510  
 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr  
 515 520 525  
 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu  
 530 535 540  
 Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser  
 545 550 555 560  
 Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser  
 565 570 575  
 Leu Ser Pro Gly Lys  
 580

<210> 3  
 <211> 376  
 <212> PRT  
 <213> artificial sequence

<220>

<223> Artificial protein fusing the V domain of the protein  
 HveC of the pig and the crystallisable fragment of the  
 porcine immunoglobulin G1

<400> 3

Met Ala Arg Met Gly Leu Ala Gly Ala Ala Gly Arg Trp Trp Gly Leu  
 1 5 10 15  
 Ala Leu Gly Leu Thr Ala Phe Phe Leu Pro Gly Ala His Thr Gln Val  
 20 25 30  
 Val Gln Val Asn Asp Ser Met Tyr Gly Phe Ile Gly Thr Asp Val Val  
 35 40 45  
 Leu His Cys Ser Phe Ala Asn Pro Leu Pro Gly Val Lys Ile Thr Gln  
 50 55 60  
 Val Thr Trp Gln Lys Ala Thr Asn Gly Ser Lys Gln Asn Val Ala Ile  
 65 70 75 80  
 Tyr Asn Pro Ala Met Gly Val Ser Val Leu Ala Pro Tyr Arg Glu Arg  
 85 90 95  
 Val Glu Phe Leu Arg Pro Ser Phe Thr Asp Gly Thr Ile Arg Leu Ser  
 100 105 110  
 Arg Leu Glu Leu Glu Asp Glu Gly Val Tyr Ile Cys Glu Phe Ala Thr  
 115 120 125  
 Phe Pro Ala Gly Asn Arg Glu Ser Gln Leu Asn Leu Thr Val Met Gly  
 130 135 140  
 Ser Val Gly Ile His Gln Pro Gln Thr Cys Pro Ile Cys Pro Gly Cys  
 145 150 155 160  
 Glu Val Ala Gly Pro Ser Val Phe Ile Phe Pro Pro Lys Pro Lys Asp  
 165 170 175  
 Thr Leu Met Ile Ser Gln Thr Pro Glu Val Thr Cys Val Val Val Asp  
 180 185 190  
 Val Ser Lys Glu His Ala Glu Val Gln Phe Ser Trp Tyr Val Asp Gly  
 195 200 205  
 Val Glu Val His Thr Ala Glu Thr Arg Pro Lys Glu Glu Gln Phe Asn  
 210 215 220  
 Ser Thr Tyr Arg Val Val Ser Val Leu Pro Ile Gln His Gln Asp Trp  
 225 230 235 240  
 Leu Lys Gly Lys Glu Phe Lys Cys Lys Val Asn Asn Val Asp Leu Pro  
 245 250 255  
 Ala Pro Ile Thr Arg Thr Ile Ser Lys Ala Ile Gly Gln Ser Arg Glu

## HER0071SEQ2.TXT

```

      260      265      270
Pro Gln Val Tyr Thr Leu Pro Pro Pro Ala Glu Glu Leu Ser Arg Ser
      275      280      285
Lys Val Thr Leu Thr Cys Leu Val Ile Gly Phe Tyr Pro Pro Asp Ile
      290      295      300
His Val Glu Trp Lys Ser Asn Gly Gln Pro Glu Pro Glu Asn Thr Tyr
      305      310      315
Arg Thr Thr Pro Pro Gln Gln Asp Val Asp Gly Thr Phe Phe Leu Tyr
      320      325      330
Ser Lys Leu Ala Val Asp Lys Ala Arg Trp Asp His Gly Asp Lys Phe
      335      340      345
Glu Cys Ala Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
      350      355      360
Ser Ile Ser Lys Thr Gln Gly Lys
      365      370      375

```

&lt;210&gt; 4

&lt;211&gt; 578

&lt;212&gt; PRT

&lt;213&gt; artificial sequence

&lt;220&gt;

<223> Artificial protein fusing the extracellular domain  
(domains V-C-C) of the protein HveC of the pig and the  
crystallisable fragment of the porcine immunoglobulin G1

&lt;400&gt; 4

```

Met Ala Arg Met Gly Leu Ala Gly Ala Ala Gly Arg Trp Trp Gly Leu
  1      5      10      15
Ala Leu Gly Leu Thr Ala Phe Phe Leu Pro Gly Ala His Thr Gln Val
      20      25      30
Val Gln Val Asn Asp Ser Met Tyr Gly Phe Ile Gly Thr Asp Val Val
      35      40      45
Leu His Cys Ser Phe Ala Asn Pro Leu Pro Gly Val Lys Ile Thr Gln
      50      55      60
Val Thr Trp Gln Lys Ala Thr Asn Gly Ser Lys Gln Asn Val Ala Ile
      65      70      75      80
Tyr Asn Pro Ala Met Gly Val Ser Val Leu Ala Pro Tyr Arg Glu Arg
      85      90      95
Val Glu Phe Leu Arg Pro Ser Phe Thr Asp Gly Thr Ile Arg Leu Ser
      100      105      110
Arg Leu Glu Leu Glu Asp Glu Gly Val Tyr Ile Cys Glu Phe Ala Thr
      115      120      125
Phe Pro Ala Gly Asn Arg Glu Ser Gln Leu Asn Leu Thr Val Met Ala
      130      135      140
Lys Pro Thr Asn Trp Ile Glu Gly Thr Gln Ala Val Leu Arg Ala Lys
      145      150      155      160
Lys Gly Lys Asp Asp Lys Val Leu Val Ala Thr Cys Thr Ser Ala Asn
      165      170      175
Gly Lys Pro Pro Ser Val Val Ser Trp Glu Thr His Leu Lys Gly Glu
      180      185      190
Ala Glu Tyr Gln Glu Ile Arg Asn Pro Asn Gly Thr Val Thr Val Ile
      195      200      205
Ser Arg Tyr Arg Leu Val Pro Ser Arg Glu Asp His Arg Gln Ser Leu
      210      215      220
Ala Cys Ile Val Asn Tyr His Met Asp Arg Phe Arg Glu Ser Leu Thr
      225      230      235      240
Leu Asn Val Gln Tyr Glu Pro Glu Val Thr Ile Glu Gly Phe Asp Gly
      245      250      255
Asn Trp Tyr Leu Gln Arg Met Asp Val Lys Leu Thr Cys Lys Ala Asp
      260      265      270
Ala Asn Pro Pro Ala Thr Glu Tyr His Trp Thr Thr Leu Asn Gly Ser
      275      280      285
Leu Pro Lys Gly Val Glu Ala Gln Asn Arg Thr Leu Phe Phe Arg Gly
      290      295      300
Pro Ile Asn Tyr Ser Met Ala Gly Thr Tyr Ile Cys Glu Ala Thr Asn
      305      310      315      320
Pro Ile Gly Thr Arg Ser Gly Gln Val Glu Val Asn Ile Thr Glu Phe
      325      330      335

```

## HER0071SEQ2.TXT

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Tyr | Thr | Pro | Ser | Pro | Pro | Glu | His | Gly | Ser | Val | Gly | Ile | His | Gln |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Pro | Gln | Thr | Cys | Pro | Ile | Cys | Pro | Gly | Cys | Glu | Val | Ala | Gly | Pro | Ser |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Phe | Ile | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Gln |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Thr | Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | Lys | Glu | His | Ala |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     |     | 400 |
| Glu | Val | Gln | Phe | Ser | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Thr | Ala |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Glu | Thr | Arg | Pro | Lys | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Tyr | Arg | Val | Val |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| Ser | Val | Leu | Pro | Ile | Gln | His | Gln | Asp | Trp | Leu | Lys | Gly | Lys | Glu | Phe |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |
| Lys | Cys | Lys | Val | Asn | Asn | Val | Asp | Leu | Pro | Ala | Pro | Ile | Thr | Arg | Thr |
|     | 450 |     |     |     |     | 455 |     |     |     |     | 460 |     |     |     |     |
| Ile | Ser | Lys | Ala | Ile | Gly | Gln | Ser | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu |
| 465 |     |     |     |     | 470 |     |     |     |     | 475 |     |     |     |     | 480 |
| Pro | Pro | Pro | Ala | Glu | Glu | Leu | Ser | Arg | Ser | Lys | Val | Thr | Leu | Thr | Cys |
|     |     |     | 485 |     |     |     |     |     | 490 |     |     |     |     | 495 |     |
| Leu | Val | Ile | Gly | Phe | Tyr | Pro | Pro | Asp | Ile | His | Val | Glu | Trp | Lys | Ser |
|     |     |     | 500 |     |     |     |     | 505 |     |     |     |     | 510 |     |     |
| Asn | Gly | Gln | Pro | Glu | Pro | Glu | Asn | Thr | Tyr | Arg | Thr | Thr | Pro | Pro | Gln |
|     |     | 515 |     |     |     |     | 520 |     |     |     |     | 525 |     |     |     |
| Gln | Asp | Val | Asp | Gly | Thr | Phe | Phe | Leu | Tyr | Ser | Lys | Leu | Ala | Val | Asp |
|     | 530 |     |     |     |     | 535 |     |     |     |     | 540 |     |     |     |     |
| Lys | Ala | Arg | Trp | Asp | His | Gly | Asp | Lys | Phe | Glu | Cys | Ala | Val | Met | His |
| 545 |     |     |     |     | 550 |     |     |     |     | 555 |     |     |     |     | 560 |
| Glu | Ala | Leu | His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Ile | Ser | Lys | Thr | Gln |
|     |     |     |     | 565 |     |     |     |     | 570 |     |     |     |     | 575 |     |
| Gly | Lys |     |     |     |     |     |     |     |     |     |     |     |     |     |     |